

## FIG. 2

CTTCTAGGGTCGTCCTCGGATGGCGGGCTCCGGTGGTGGACGCCGAGTACCTGCGCCAGGTC  
 M A A P V V D A E Y L R Q V  
 GACAGGGCGCGCCGCGCTTCCGTGCCCTCATCGCCTCCAAGGGATGCGCCCCCATCATG 120  
 D R A R R A F R A L I A S K G C A P I M 34  
 CTCCGCTCGCATGGCATGATGCTGGCACCTATGATGTGAACACAAGAAGTGGTGGTGCA  
 L R L A W H D A G T Y D V N T R T G G A  
 AATGGTTCAATTAGATACGAGGAAGAGTACACCCATGGTTCAAATGCTGGCTTAAAAATT 240  
 N G S I R Y E E E Y T H G S N A G L K I 74  
 GCTATTGATCTCCTTGAGCCTATTAAAGCGAAGCATCCAAAGATTACATATGCAGACCTT  
 A I D L L E P I K A K H P K I T Y A D L  
 CATCAGCTTGCCGGAGTAGTTGCAGTTGAAGTCACCGGGGGTCCAACCGTTGAGTTCATC 360  
 H Q L A G V V A V E V T G G P T V E F I 114  
 CCTGGAAGACGTGATTCGTAGTTGTCCCCGTGAAGGACGCTTCTGATGCTAAGAAA  
 P G R R D S S V C P R E G R L P D A K K  
 GGTGCACCACATCTAAGGGACATCTTTTATCGAATGGGGTTAACAGACAAAGATATTGTA 480  
 G A P H L R D I F Y R M G L T D K D I V 154  
 GCACTATCTGGGGGGCACAGCCTGGGAAAGGCGCATCTGAAAGGTCTGGGTTTGACGGT  
 A L S G G H S L G K A H P E R S G F D G  
 GCATGGACTCGTGACCCTCTGAAATTTGACAACCTCATACTTTCTTGAGCTACTGAAGGGG 600  
 A W T R D P L K F D N S Y F L E L L K G 194  
 GAATCTGAGGGTCTTCTGAAGCTCCCTACTGATAAGGCATTGTTGGATGATCCTGAATTT  
 E S E G L L K L P T D K A L L D D P E F  
 CGACGCTATGTGGAGCTTTATGCAAAGGATGAGGATGTTTCTTCAAGGACTACGCTGAA 720  
 R R Y V E L Y A K D E D V F F K D Y A E 234  
 TCACACAAAAAAGTTTCTGAAGTTGGCTTCACACCACGGAGCAGTGGCCCAGCATCTACA  
 S H K K L S E L G F T P R S S G P A S T  
 AAATCAGATGTTTCAACTGCTGTTGACTTGACAGAGTGCAGTCGGGGTAGCAGTTGCT 840  
 K S D V S T A V V L A Q S A V G V A V A 274  
GCAGCTGTAGTTATCGCGGGCTACCTGTACGAAGCTTCCAAGAGGAGCAAGTAAGGGGTT  
A A V V I A G Y L Y E A S K R S K \* 291  
 CGTGAGTTCTTGGATGACATTCCCTTATTTAGTAAGTATCAAGTTATTATTCTAAAAAAA 960  
 TAAGTGCCAAGTGCAAATAACAGAACTCTAGTGATGAACAACCAACAGTAGTCTCAAAAT  
 ATTTACATACATTCTTGAGGACATCTCCTTCATATATATACATCATACTTGAATAAAAAAA 1080  
 AAAAAAAA 1089

FIG. 2

[illegible]

# FIG. 3

pAPX MAAPVDDAEYLRQVDRARRAFRALIASKGCAPIMRLANHDAGTYDVNTRTGG  
 gAPX MAFPVVDTEYLKEIDKARRDLRALIALKNCAPIMRLANHDAGTYDVSTKTGGP  
 APX3 MAAPIVDAEYLYKEITKARRELRLSLANKNCAPIMRLANHDAGTYDAQSKTGGP  
  
 pAPX NGSIRYEEEEYTHGNSNAGLKIAIDLLEPIKAKHPKITYADLHQLAGVVAVEVTGG  
 gAPX NGSIRNEEEYTHGANSGLKIAIDFCEEVKAHPKITYADLYQLAGVVAVEVTGG  
 APX3 NGSIRNEEEYTHGANSGLKIAIDLCEGVKAHPKITYADLYQLAGVVAVEVTGG  
  
 pAPX PTVEFIIPGRRDSSVCPREGRLPDAKKGAPHLRDIIFYRMGLTDKDIVALSGGHSL  
 gAPX PTIDFVPGRKDSNICPREGRLPDAKRGAPHLRDIIFYRMGLSDKDIVALSGGHSL  
 APX3 PDIVFVPGRKDSNVCPKEGRLPDAKQGFHLRDVIFYRMGLSDKDIVALSGGHTL  
  
 pAPX GKAHBERSGFDGAWTRDPLKFDNSYFLELLKGESEGLLKLPDTDKALLDDPEFR  
 gAPX GRAHBERSGFDGPWTNEPLKFDNSYFLELLKGESEGLLKLPDTDKALLDDPEFRK  
 APX3 GRAHBERSGFDGPWTQEPPLKFDNSYFVLELLKGESEGLLKLPDTDKTLLDPEFR  
  
 pAPX YVELYAKDEDVFFFKDYAESHHKKLSELGFTPRSSGPASTKSDVSTAVVLAQSAVG  
 gAPX YVELYAKDEDAFFRDYAESHHKKLSELGFTPTSARSKVMVKD-ST-V-LAQGAVG  
 APX3 LVELYAKDEDAFFRDYAESHHKKLSELGENPNSSAGKA-VAD-STI--LAQSAFG  
  
 pAPX VAVAAAVVIAGYLYEASKRSK  
 gAPX VAVAAAVVILSYFYEVRKRMK  
 APX3 VAVAAAVVAFGYFYEIRKRMK

APP. N. FILING DATE: JUNE 1, 2001

TI PEROXISOMAL ASCORBATE PEROXIDASE GENE IN  
TE. SATURE STRESS AND A TRANSGENEIC PLANT EXHIE  
THERMOTOLERANCE

INVENTOR(S): TETSUKO TAKABE

APPLICATION SERIAL NO: UNASSIGNED

BY HIGH

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## FIG. 4

1 2 3 4 5

(Kbp)

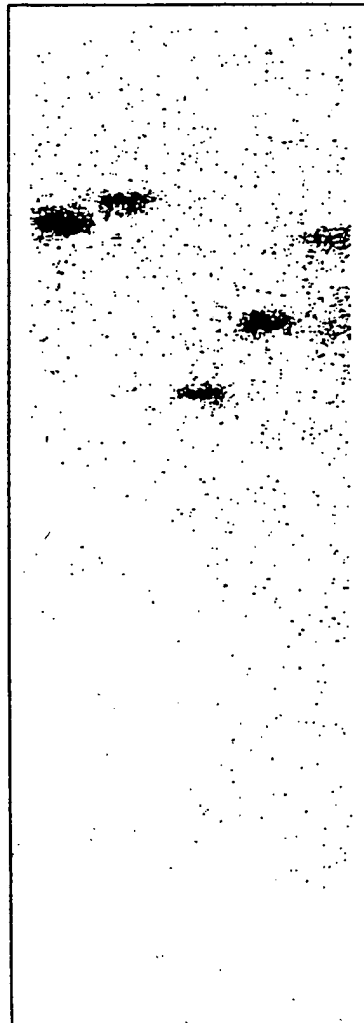
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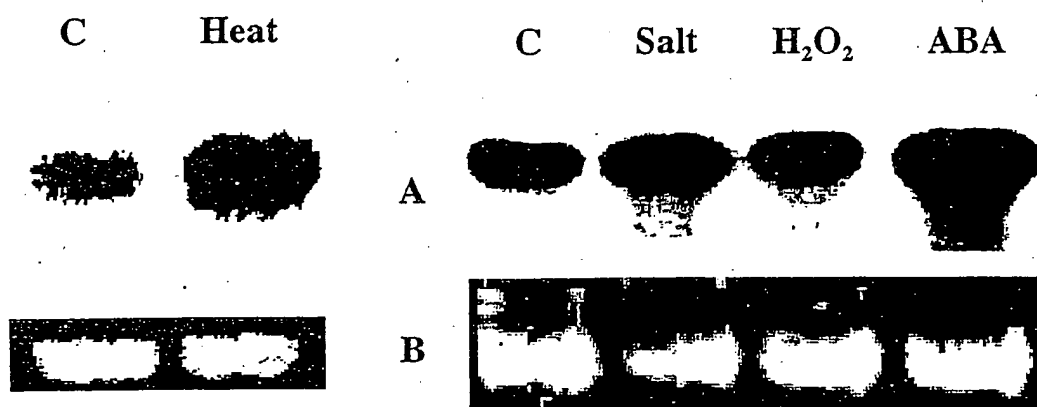
4.3-

1.9-

0.9-



*FIG. 5*



APPLN. FILING DATE: JUNE 1, 2001

TITLE: XISOMAL ASCORBATE PEROXIDASE GENE INDUCE HIGH  
TEMPER. STRESS AND A TRANSGENEIC PLANT EXHIBITING  
THERMOTOLERANCE

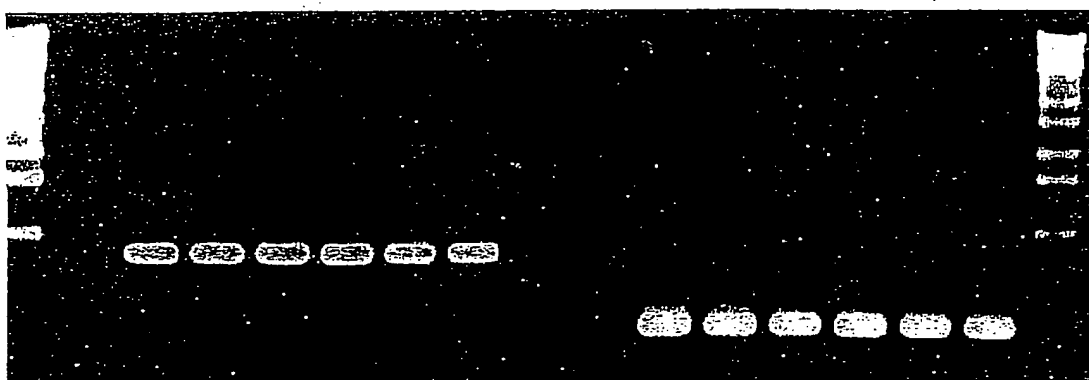
INVENTOR(S): TETSUKO TAKABE

APPLICATION SERIAL NO: UNASSIGNED

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## FIG. 6

M\_WT pAPX1 pAPX2 pAPX3 pAPX5 pAPX7 pAPX8 \_ WT pAPX1 pAPX2 pAPX3 pAPX5 pAPX7 pAPX8 \_M



**FIG. 7**



A

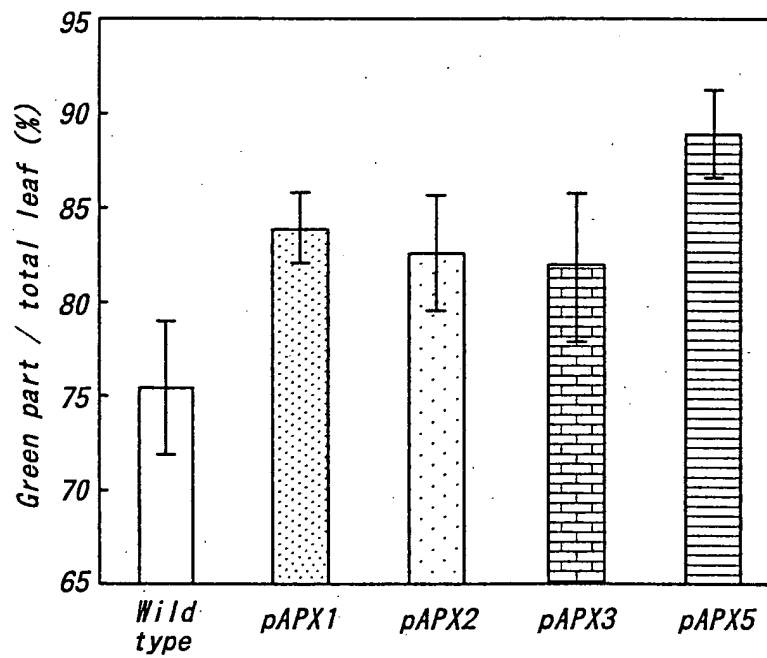


B

Wild type    pAPX1    pAPX2    pAPX3    pAPX5    pAPX7    pAPX8

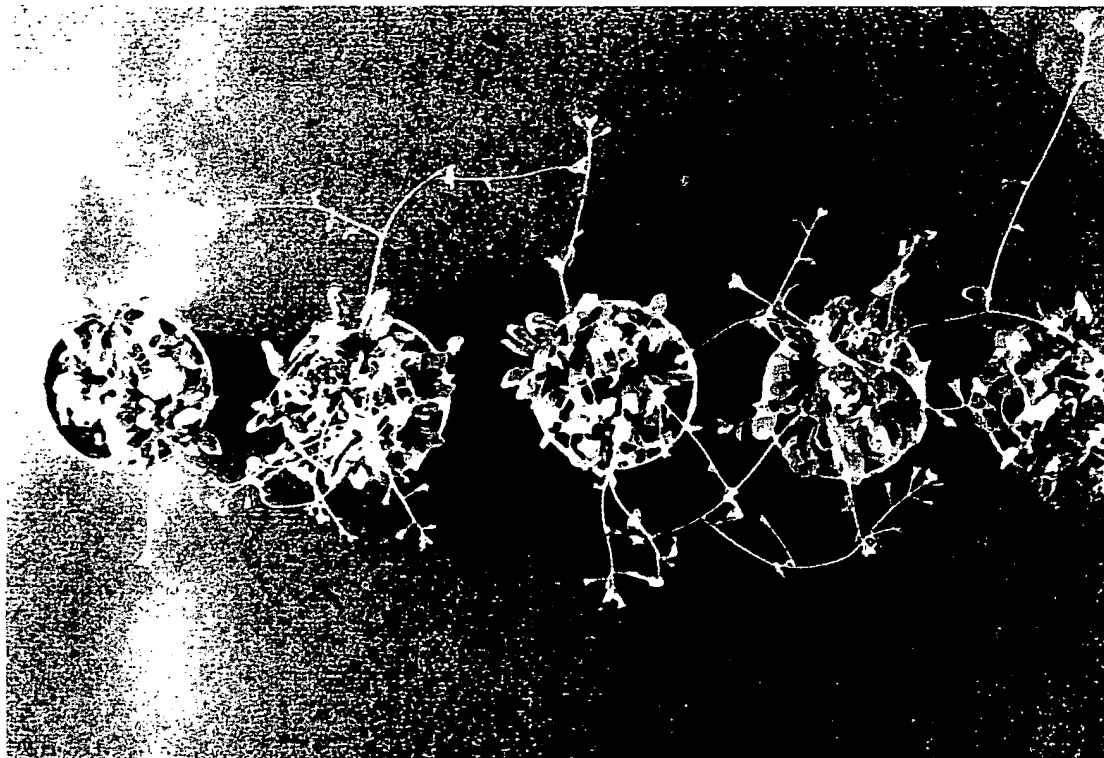
[illegible]

**FIG. 8**





**FIG. 9**



Wild type

pAPX1

pAPX2

pAPX3

pAPX5